REMARKS / ARGUMENTS

Claims 8-14 remain pending in this application. No claims have been canceled or added.

35 U.S.C. §112

The claims have been amended to overcome the Examiner's objections and rejections. However, with respect to the Examiner's comment regarding claim 14, line 10 as being a duplicate of line 9, Applicants request clarification. It does not appear that claim 14, line 10, is a duplicate of claim 14, line 9.

35 U.S.C. §103

Claims 8-9, 11-12 and 14 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Hohn et al (U.S. Patent No. 6,252,254) in view of Duggal et al (U.S. Patent No. 6,515,314) and further in view of Gray et al (U.S. Patent No. 5,985,173). These rejections are traversed as follows.

The present invention is directed to a light source that has a phosphor screen including phosphor expressed by the following formula: $(L_{1-a-b}Gd_aCe_b)_3(Al_{1-c}Ga_c)_5O_{12}:M_d$. M is a dopant of a monovalent metal element (such as potassium recited in claims 12 and 14). Since the phosphor includes the monovalent metal element, the crystal quality of the phosphor material which determines the capability

to change visible light into other wave lengths is greatly improved. It is submitted that the Examiner's attempted combination of references fails to render the presently claimed invention obvious and unpatentable.

Hohn et al disclose a phosphor composition represented by the formula $Y_{12}Al_5O_{12}$ and characterized in that the phosphor composition includes a dopant consisting of a divalent ion such as Ca, Sr and S, or a tetravalent ion such as Si. As previously argued, Hohn et al clearly fail to disclose the phosphor composition presently being claimed and shown above. Furthermore, Hohn et al do not disclose a dopant of a monovalent metal element as presently claimed. As such, the presently claimed invention is completely different from Hohn et al.

The deficiencies in Hohn et al are not overcome by resort to Duggal et al. Duggal et al disclose various phosphor compositions at column 6, lines 8-25, which are well known. Duggal et al do not disclose an element M which is a dopant of a monovalent metal element and a feature of the presently claimed invention. Secondly, the structure disclosed by Duggal et al is completely different from the presently claimed invention. Duggal et al disclose a light-emitting device including an anode, a cathode and at least an "EL" material position between the anode and the cathode (see Fig. 1 and column 1, line 66 to column 2, line 35). On the other hand, the present invention is directed to a light source and a display having a liquid crystal display panel, a light source forming a backlight of the liquid crystal display

panel and control means that controls visible light generated from the light source and displays image information on the liquid crystal display panel.

The deficiencies in Hohn et al and Duggal et al are not overcome by resort to Gray et al. Gray et al disclose surface treatment at a time of making the diameter of a phosphor particle small to a nanometer size (see column 1, lines 6-12). Gray et al disclose a phosphor composition represented by formulas such as $Y_3Al_5O_{12}$ and $Y_3(AlGa)_5O_{12}$ (see column 6, lines 9-17). Gray et al also fail to disclose the phosphor composition presently claimed $(L_{1-a-b}Gd_aCe_b)_3(Al_{1-c}Ga_c)_5O_{12}:M_d$. The phosphor composition of Gray et al does not include the element Ce nor the element M, which is a dopant of a monovalent metal element. Furthermore, the structure disclosed by Gray et al is completely different from the presently claimed invention.

By providing the phosphor composition presently claimed and the element M being a dopant of a monovalent metal element, the phosphor crystal is greatly improved in quality and therefore the emitting-characteristics of the phosphor are greatly improved. These advantages cannot be realized by the attempted combination of references.

Claims 10 and 13 have been written in independent form and are therefore in condition for allowance. It is submitted that all the claims are now in condition for allowance.

Conclusion

In view of the foregoing, Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

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